205.4 - Radioactive Solutions

These SRMs are intended for the calibration of radioactivity measuring instruments and for the monitoring of chemical and geochemical processes. They are calibrated in terms of activity per gram of solution. Each SRM is contained in a flame-sealed glass ampoule or bottle and, except as noted, consists of the radionuclide dissolved in an aqueous solution (usually acidic).

License certification is required of purchaser by NIST before shipment.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

SRM	Description	Unit of Issue	Decay Modes	Massic Activity (Bq/g)	Time of Calibration (month/year)	Volume of Solution (mL)
4222c	Carbon-14 Hexadecane	5 mL	β^-	50 000	09/90	5
4226d	Nickel-63 Radioactivity Solution	5 mL	β^-	85 940	11/09	
4233E*	Cesium-137 Solution	5 mL	β^-,γ	300 000	09/05	5
4239	Strontium-90 Radioactivity Standard	5 mL	β^-	32000	12/06	5
4251C*	Barium-133 Solution	5 mL	EC	487600	09/93	5
4274	Holmium-166m Gamma-ray Emission Rate Standard	5 mL	γ	19 300	02/06	5
4288b	Technetium-99 Radioactivity Solution	5 mL	β^-	31550	05/08	5
4320a*	Curium-244 Solution	5 mL	α	35	02/96	5
4321c	Natural Uranium Solution	5 mL	α	500	01/92	5
4322C*	Americium-241 Radioactivity Standard	5 mL	α	106.4	05/07	5
4323b*	Plutonium-238 Solution	5 mL	α	40	11/99	5
4324b	Uranium-232 Solution	5 mL	α	30	7/2002	5
4326	Polonium-209 Solution	5 mL	α, EC	85.42	03/94	5
4328C	Thorium-229 Solution	5 mL	α	35	12/07	5
4329	Curium-243 Solution	5.1 g	α	70	06/84	5
4330c	Plutonium-239 Radioactivity Solution	3 g	α	38.41	05/09	5
4332e	Americium-243 Radioactivity Solution	5 mL	α	38.49	10/08	5
4334I	Plutonium-242 Solution	5 mL	α	26.77	01/10	5
4337	Lead-210 Radioactivity Solution	5 mL	β^-	9037	06/06	5
4338a*	Plutonium-240 Solution	5 mL	α	40.88	05/96	5

SRM	Description	Unit of Issue	Decay Modes	Massic Activity (Bq/g)	Time of Calibration (month/year)	Volume of Solution (mL)
4339a	Radium-228 Solution	5 mL	α, EC	200	In Prep	
4340B*	Plutonium-241 Solution	5 mL	β^-	258	06/07	5
4341*	Neptunium-237 Solution	5 mL	α	100	03/94	5
4342A	Thorium-230 Radioactivity Standard	5 mL	α	50	06/93	5
4361C	Hydrogen-3 Water	500 mL	β^-	2	09/98	500
4370c*	Europium-152 Solution	5 mL	β^-,EC,γ	90 000	02/87	5
4915F*	Cobalt-60 Solution	5 mL	β^-,γ	60 000	11/05	5
4919I*	Strontium-90 Solution	5 mL	β^-	4200	12/06	5
4926E	Hydrogen-3 Water	20 mL	β^-	5 000	09/98	20
4927f	Hydrogen-3 Water	5 mL	β^-	635 000	09/98	5

Certified values are normal font.
Reference values are italicized.
Values in parentheses are for information only.

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4929-d	Iron-55 Solution	5 mL				
4929F	Iron-55 Solution	5 mL	EC, β^-	59000	11/05	5
4943	Chlorine-36 Solution	3 mL	β^-	10 000	12/84	3
4947c	Hydrogen-3 Toluene	4 mL	β^-	300 000	03/87	4
4949C*	Iodine-129 Solution	5 mL	β^-	3 451	03/93	5
4965	Radium-226 Solution	5 mL	α, γ	30	09/91	5
4966A	Radium-226 Solution	5 mL	α, γ	290	01/07	5
4967A	Radium-226 Solution	5 mL	α, γ	2 500	09/03	5
4969	Radium-226 Solution	5 mL	α, γ	3	09/98	5

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